

Vertigo ventricosa (Morse). New.

Succinea haydeni Lea. *S. retusa* Lea is cited by Dall and Whiteaves.

Lymnaea arctica Lea. From a study of this lot, Mr. F. C. Baker has concluded that *arctica* is specifically distinct from *L. vahlii* Beck, Müller, with which he linked it as a subspecies in his monograph of the Lymnaeidae.

Lymnaea rustica Lea.

Lymnaea perplexa Baker and Henderson. "The specimens are nearly typical."—Baker.

Helisoma antrosum (Conrad).

Physa ancillaria Say.

Physa heterostropha Say.

Valvata tricarinata Say.

Sphaerium stamineum (Conrad). New. The specimens were compared with examples identified as *stamineum* by Dr. Victor Sterki, but my determination is possibly wrong.

Lampsilis siliquoidea (Barnes).

Among the loose boards near the post were numbers of a grayish-white slug which I believe was *Agriolimax agrestis* (L.). I cannot be certain of the identification because vials containing a score or two of the slugs were lost somewhere on the journey.

I am indebted to Messrs. Allan Archer, F. C. Baker and W. J. Clench for aid in identifications.

AMNICOLIDAE FROM WYOMING AND OREGON

BY HENRY A. PILSBRY

Some western Amnicolidae received from Professor Junius Henderson give occasion for the following notes.

AMNICOLA ROBUSTA (Walker). Plate 2, figs. 1, 7, 8.

Pomatiopsis robusta Walker, 1908, NAUTILUS, vol. 21, p. 97, text fig.

The type of this species was an unique shell from Jackson Lake, in northwestern Wyoming. Specimens taken there by Junius Henderson have been examined. Most of

them are somewhat wider than Walker's type, which measured, length 6 mm., diam. 3.5 mm. The two specimens now figured measure: length 5.2 mm., diam. 3.2 mm., and 5.9×4 mm.

The radula is that of *Amnicola*, and it is certainly not a *Pomatiopsis*. The central tooth has strongly trilobed basal margin, a single basal denticle on each side, and a cusp with 9 denticles. Lateral teeth with 7 denticles, the body with a median boss and prominent inner-basal angle. The spatulate outer uncinus has much smaller denticles than the reflected edge of the inner uncinus, and owing to foreshortening, the number of denticles was only approximately counted. Denticle formula $\frac{4.1.4}{1-1-1}$, 2.1.4, 20+—, 20+—.

Professor Henderson writes that "the lake was formerly very much smaller, before the erection of the great dam at Moran, and Hinkley almost certainly collected the type before it was enlarged. The most likely place for him to have found mollusks was at the southern end of the lake, near the present dam. I found our specimens not far inside the dam when the lake was nearly drained for irrigation, with *Lymnaea jacksonensis*, the types of which were also obtained by Hinkley. I had searched the same place several times at high water without finding any mollusks, as the shore line at that stage is not favorable, being too new."

AMNICOLA HENDERSONI, new species. Plate 2, figs. 2, 9, 10.

South of Burns, Oregon. Type 145951 ANSP., paratypes 145951a; and in Univ. Colo. Mus. and M.C.Z., collected by Mr. Geo. M. Benson; received from Junius Henderson.

The shell is perforate, long ovate, buffy olive. Spire rather short, conic, the apex a little obtuse. Whorls moderately and evenly convex, sloping from the moderately impressed suture. The surface is rather dull, nearly smooth, with very weak growth lines. Umbilicus quite narrow. The ovate aperture occupies somewhat less than half the total length. The peristome is thin, very slightly or not recurved at the columella, adnate above the umbilical fissure.

Length 4.7 mm., diam. 2.7 mm., aperture 2.2 mm. long; $4\frac{1}{2}$ whorls. Type.

Length 4.4 mm., diam. 2.6 mm., aperture 2.1 mm. long; $4\frac{1}{2}$ whorls.

The radula is similar to that of *A. robusta* (Wkr.) except that the central tooth (fig. 2) is much shorter, with more numerous denticles. The other teeth are much alike in the two species. Formula of denticles $\frac{6.1.6}{1-1}$, 1.1.4, 20+—, 20+—. Possibly the lateral tooth has the formula 2.1.4, but none of the teeth are in position to show this clearly in the two radulae mounted.

This species is about the size of *Paludestrina longiqua* (Gld.), but is quite different owing to the far less convex whorls, the less impressed suture and the closely adnate parietal margin of the peristome above the umbilicus. It is not nearly related to any of the western Amnicolidae enumerated in NAUTILUS, vol. 12, p. 121.

A specimen of *A. longiqua* Gld. is drawn in fig. 6 for comparison. It is from Indio, Cal. No. 61939.

AMNICOLA IDAHOENSIS, new species. Pl. 2, figs. 3, 4, 5.

Homedale, Owyhee County, Idaho. Type and paratypes 152677 ANSP., paratypes in Mus. Univ. Colorado. Collected by Mr. H. C. Tucker, and received from Prof. Junius Henderson.

The shell is rimate, elongate; buffy olive, fading to whitish at the summit. Apex slightly obtuse but not flattened; whorls at first strongly convex, the convexity gradually diminishing, the last two or three moderately convex in the upper part, becoming strongly convex below the periphery of the last. Surface smooth except for weak lines of growth. Aperture broadly ovate, oblique.

Length 7.7 mm., diam. 3.4 mm., aperture 2.6 mm. long; $6\frac{1}{2}$ whorls. Type.

Length 5.4 mm., diam. 2.9 mm., aperture 2.3 mm. long; $5\frac{1}{4}$ whorls. Paratype.

Operculum ferruginous, fading towards the outer and basal edges, the nucleus at about the lower third and at the inner fourth of the width.

Radula generally similar to that of *A. robusta* (Wkr.), the denticle formula $\frac{4.1.4}{1-1}$, 2.1.4, 20+—, 30+—. In



some rows the lateral tooth has 2.1.5 denticles. The notch at the outer end of the denticle row of the inner uncinus is not so distinct as in *A. robusta*, and the outer uncinus has somewhat finer denticulation (fig. 3).

While related to *A. robusta* (Wkr.) this species is distinct by the more slender shape and smaller aperture. The generic classification of such forms depends upon the form of the verge or external male organ, which is unknown in this species, *A. robusta* and *A. hendersoni*; but for the present they are considered to be Amnicolae of the subgenus *Marstonia* F. C. Baker, type *A. lustrica* Pils.

The eastern "*Paludina*" *nickliniana* Lea is more slender than *A. idahoensis*, with a deeper suture. According to F. C. Baker the verge differs from that of *Paludestrina* and *Hydrobia*, and he has revived for it the name *Stimpsonia* Clessin, 1878. As this is preoccupied in Crustacea and Vermes I propose to substitute *Fontigens*, type *Paludina nickliniana* Lea.

THREE NEW POLYGYRID SNAILS FROM CALIFORNIA

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A very interesting new *Polygyra* which has just come to hand from northern California impels me to submit in connection with it two other forms which I have had in manuscript for a considerably longer period of time.

POLYGYRA TRACHYPEPLA, new species. Pl. 2, figs. 12, 12a.

Description: Shell small, depressed, thin, imperforate. Embryonic whorls with first half-turn smooth and vitreous, the second half-turn less transparent and showing a few weak concentric wrinklings together with a gradually developing system of minute papillae which on succeeding whorls become much larger, elongate, then almost confluent, and eventually somewhat crescentic and bearing more or less deciduous scale-like excrescences above; there is evidence of a double arrangement of these in forward-slanting series on the one hand and approximately axial or con-